Notice of Allowability	Application No.	Applicant(s)	
	10/042,979	DILGER, JOHN P.	
	Examiner	Art Unit	
	Carol S Tsai	2857	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address--

All claims being allowable, PROSECUTION ON THE MERITS IS (OR REMAINS) CLOSED in this application. If not included herewith (or previously mailed), a Notice of Allowance (PTOL-85) or other appropriate communication will be mailed in due course. **THIS NOTICE OF ALLOWABILITY IS NOT A GRANT OF PATENT RIGHTS.** This application is subject to withdrawal from issue at the initiative of the Office or upon petition by the applicant. See 37 CFR 1.313 and MPEP 1308.

1. ☒ This communication is responsive to *10/28/04*.

2. ☒ The allowed claim(s) is/are *1, 2, 4-7, 9-14, 22, 23, and 25-27, now renumbered as 1-17*.

3. ☒ The drawings filed on *09 January 2002* are accepted by the Examiner.

4. ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
   a) ☐ All b) ☐ Some* c) ☐ None of the:
      1. ☐ Certified copies of the priority documents have been received.
      2. ☐ Certified copies of the priority documents have been received in Application No. _____ .
      3. ☐ Copies of the certified copies of the priority documents have been received in this national stage application from the International Bureau (PCT Rule 17.2(a)).

   * Certified copies not received: _____.

Applicant has THREE MONTHS FROM THE "MAILING DATE" of this communication to file a reply complying with the requirements noted below. Failure to timely comply will result in ABANDONMENT of this application.
THIS THREE-MONTH PERIOD IS NOT EXTENDABLE.

5. ☐ A SUBSTITUTE OATH OR DECLARATION must be submitted. Note the attached EXAMINER'S AMENDMENT or NOTICE OF INFORMAL PATENT APPLICATION (PTO-152) which gives reason(s) why the oath or declaration is deficient.

6. ☐ CORRECTED DRAWINGS (as "replacement sheets") must be submitted.
   (a) ☐ including changes required by the Notice of Draftsperson's Patent Drawing Review (PTO-948) attached
      1) ☐ hereto or 2) ☐ to Paper No./Mail Date _____.
   (b) ☐ including changes required by the attached Examiner's Amendment / Comment or in the Office action of Paper No./Mail Date _____.

   Identifying indicia such as the application number (see 37 CFR 1.84(c)) should be written on the drawings in the front (not the back) of each sheet. Replacement sheet(s) should be labeled as such in the header according to 37 CFR 1.121(d).

7. ☐ DEPOSIT OF and/or INFORMATION about the deposit of BIOLOGICAL MATERIAL must be submitted. Note the attached Examiner's comment regarding REQUIREMENT FOR THE DEPOSIT OF BIOLOGICAL MATERIAL.

Attachment(s)

1. ☐ Notice of References Cited (PTO-892)
2. ☐ Notice of Draftperson's Patent Drawing Review (PTO-948)
3. ☒ Information Disclosure Statements (PTO-1449 or PTO/SB/08), Paper No./Mail Date 05/21/04
4. ☐ Examiner's Comment Regarding Requirement for Deposit of Biological Material
5. ☐ Notice of Informal Patent Application (PTO-152)
6. ☐ Interview Summary (PTO-413), Paper No./Mail Date _____ .
7. ☐ Examiner's Amendment/Comment
8. ☒ Examiner's Statement of Reasons for Allowance
9. ☐ Other _____.

DETAILED ACTION

Allowable Subject Matter

1. Claims 1, 2, 4-7, 9-14, 22, 23, and 25-27 are allowed.

2. The following is an examiner's statement of reasons for allowance:

Publication 2003/0052083 to Kim et al. in view of U. S. Patent No. 6,272,938 to Baghel et al. are references closest to the claimed invention. Kim et al. in combination with Baghel et al. disclose an apparatus for diagnosing a chemical detection system comprising: a sample retrieval device for collecting and detecting emissions, wherein the sample retrieval device includes an accumulator chamber having a sample port for receiving the emission from an emission source, a chemical sensor located within the accumulator chamber for detecting the emission, and an exhaust port for exhausting the detected emission; and a control module containing a first operational mode to control the sample retrieval device and a second operational mode to perform a diagnostic routine to validate the performance of the sample retrieval device. However, Kim et al. in combination with Baghel et al. do not teach the diagnostic routine comprising confirming the flow of the emission and a flow of an atmosphere that does not contain a substantial amount of the emission into the chemical detection system, the control module further comprising a diagnostic routine validating the operation of the chemical sensor within the chemical detection system; and including all of the other limitations in the respective independent claims.

Publication 2003/0052083 to Kim et al. is the reference closest to the claimed invention. Kim et al. also disclose a method for verifying the operation of a chemical detection system, the

method comprising the steps of: performing diagnostic routines on the chemical detection system, the diagnostic routines comprising controlling the exposure of a chemical sensor and taking measurement of surrounding environmental conditions; measuring the response of a chemical sensor to the controlled exposure and the surrounding environmental conditions; storing response data in a memory device; and generating diagnostic data from the response data. However, Kim et al do not teach the diagnostic routines including confirming the flow of an emission and a flow of an atmosphere that does not contain a substantial amount of an emission into the chemical detection system, the diagnostic routine further validating the operation of the chemical sensor within the chemical detection system; and including all of the other limitations in the respective independent claims.

Publication 2003/0052083 to Kim et al. is the reference closest to the claimed invention. Kim et al. also disclose a method for verifying the operation of a chemical detection system, the method comprising the steps of: performing diagnostic routines on the chemical detection system, the diagnostic routines comprising controlling the exposure of a chemical sensor and taking measurement of surrounding environmental conditions; measuring the response of a chemical sensor to the controlled exposure and the surrounding environmental conditions; storing response data in a memory device; and generating diagnostic data from the response data. However, Kim et al do not teach the diagnostic routines including confirming the flow of an emission and a flow of an atmosphere that does not contain a substantial amount of an emission through the chemical detection system, the diagnostic routine further including computing a transient flow sensitivity response by calculating the absolute value of the arithmetic difference of a first average chemical sensor response and a second average chemical sensor response, the

first average chemical sensor response computed under static flow conditions without substantial exposure to an emission, the second average chemical sensor response computed under dynamic flow conditions without substantial exposure to an emission; and including all of the other limitations in the respective independent claims.

Publication 2003/0052083 to Kim et al. is the reference closest to the claimed invention. Kim et al. also disclose a method for verifying the operation of a chemical detection system, the method comprising the steps of: performing diagnostic routines on the chemical detection system, the diagnostic routines comprising controlling the exposure of a chemical sensor and taking measurement of surrounding environmental conditions; measuring the response of a chemical sensor to the controlled exposure and the surrounding environmental conditions; storing response data in a memory device; and generating diagnostic data from the response data. However, Kim et al do not teach the diagnostic routine including quantifying the chemical sensor saturation potential, the diagnostic routine further including computing a sensor response gradient, the sensor response gradient being calculated by a ratio of a sensor response threshold arithmetically divided by a predetermined time interval, wherein the sensor response threshold is determined by performing the absolute value of the arithmetic difference of a first average chemical sensor response and a second average chemical sensor response, the first average chemical sensor response computed under static flow conditions without substantial exposure to an emission, the second average chemical sensor response computed value under static flow conditions with exposure to an emission; and including all of the other limitations in the respective independent claims.

Publication 2003/0052083 to Kim et al. is the reference closest to the claimed invention. Kim et al. also disclose a method for verifying the operation of a chemical detection system, the method comprising the steps of: performing diagnostic routines on the chemical detection system, the diagnostic routines comprising controlling the exposure of a chemical sensor to emissions and taking measurement of surrounding environmental conditions; measuring the response of a chemical sensor to the controlled exposure; storing response data in a memory device; and generating diagnostic data from the response data. However, Kim et al do not teach measuring an ambient temperature and an absolute frequency shift of the chemical sensor wherein the absolute frequency shift measurement is performed by computing the arithmetic difference between an average chemical sensor response and a configuration sensor response stored in the memory device, the average chemical sensor response computed under static flow conditions without substantial exposure to the emission, wherein the configuration sensor response value is computed under static flow conditions prior to exposure to the emission; and including all of the other limitations in the respective independent claims.

Publication 2003/0052083 to Kim et al. is the reference closest to the claimed invention. Kim et al. also disclose a method for determining fault conditions of a chemical sensor, the method comprising the steps of: performing diagnostic routines on the chemical detection system, the diagnostic routines comprising controlling the exposure of a chemical sensor to emission and taking measurement of surrounding environmental conditions; measuring the response of a chemical sensor to the controlled exposure such that measuring the response of the chemical sensor; storing response data in a memory device; and generating diagnostic data from the response data. However, Kim et al do not teach measuring an ambient temperature and an

absolute frequency shift of the chemical sensor wherein the absolute frequency shift measurement is performed by computing the arithmetic difference between an average chemical sensor response and a configuration sensor response stored in the memory device, the average chemical sensor response being computed under static flow conditions without exposure to the emission and the configuration sensor response value being computed under static flow conditions prior to exposure to the emission; and including all of the other limitations in the respective independent claims.

Publication 2003/0052083 to Kim et al. is the reference closest to the claimed invention. Kim et al. also disclose a method for determining fault conditions of a chemical sensor, the method comprising the steps of: performing diagnostic routines on the chemical detection system, the diagnostic routines comprising controlling the exposure of a chemical sensor to emissions and taking measurement of surrounding environmental conditions; measuring the response of a chemical sensor to the controlled exposure; storing response data in a memory device; and generating diagnostic data from the response data. However, Kim et al do not teach measuring the response of the chemical sensor being comprised of quantifying chemical sensor noise by comparing an absolute arithmetic difference to at least one noise threshold value wherein the noise threshold value provides a graduated fault condition and the absolute arithmetic difference is performed by calculating the absolute value of the arithmetic difference between an average chemical sensor response and the noise threshold value stored in memory, the average chemical sensor response computed under static flow conditions without exposure to an emission and the configuration sensor response being computed value under static flow

conditions prior to exposure to an emission; and including all of the other limitations in the respective independent claims.

Any comments considered necessary by applicant must be submitted no later than the payment of the issue fee and, to avoid processing delays, should preferably accompany the issue fee. Such submissions should be clearly labeled "Comments on Statement of Reasons for Allowance."

Contact Information

3. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Carol S. W. Tsai whose telephone number is (571) 272-2224. The examiner can normally be reached on Monday-Friday from 8:30 AM to 5:00 PM. If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Marc S. Hoff can be reached on (571) 272-2216. The fax number for TC 2800 is (703) 872-9306. Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the TC 2800 receptionist whose telephone number is (571) 272-1585 or (571) 272-2800.

In order to reduce pendency and avoid potential delays, Group 2800 is encouraging FAXing of responses to Office actions directly into the Group at (703) 872-9306. This practice may be used for filing papers not requiring a fee. It may also be used for filing papers which require a fee by applicants who authorize charges to a PTO deposit account. Please identify the

examiner and art unit at the top of your cover sheet. Papers submitted via FAX into Group 2800 will be promptly forwarded to the examiner.

Carol S. W. Tsai
Patent Examiner
Art Unit 2857

11/09/04